16:21

The Humanist Pulpit

Series IX Number 12

LUTHER BURBANK

His Life, His Work, His Religion

JOHN H. DIETRICH

Price Ten Cents

The First Unitarian Society,
803 LaSalle Avenue,
Minneapolis, Minn.

This pamphlet contains an address delivered in the Garrick Theatre before the First Unitarian Society of Minneapolis, at its regular Sunday morning meeting, May 2, 1926, by the minister, John H. Dietrich, and is published for the purpose of reaching those people who are in sympathy with our work but are unable to attend our meetings.

The minister of the First Unitarian Society of Minneapolis is granted absolute freedom of thought and speech. The Sunday morning addresses are the expression of his individual convictions and he alone is responsible for them.

One address is published each month from September to June, and subscriptions for the annual series (ten in number) are received at one dollar, postpaid. If in addition the Sunday morning programs are desired, the subscription price for the two (addresses and programs) is two dollars. Address the Secretary, First Unitarian Society, 803 La Salle Avenue, Minneapolis, Minn.

Extra copies of this pamphlet and all others that are still in print may be procured from the above address for ten cents each, postpaid.

LUTHER BURBANK: A MEMORIAL TRIBUTE

Just three weeks ago today, Luther Burbank died, and all America, if not the whole world, joined with Santa Rosa, California, in spirit if not in fact, in mourning the death of this man, whose name had become a household word throughout the civilized world as the man who was able to transform noxious weeds into palatable vegetables, poisonous berries into delicious fruits, and unsightly blossoms into beautiful flowers. In fact, his results in this line were so marvelous that he has been called the "plant wizard," which, however well-intended, David Starr Jordan tells us, was an unfortunate epithet because it gives the impression of a clever operator rather than the fact that he was a man of science with broad views, exact knowledge, and hard work. If Carlyle's definition of genius as "an infinite capacity for taking pains" be correct, then Burbank surely was a genius both in his results and in his method of obtaining them; and this indeed is what he was termed by the world's greatest botanist, Hugo De Vries, who made several trips halfway round the world in order to see and study the methods and results of Mr. Burbank's work; and then pronounced him one of the greatest geniuses of this modern time—a man who had done practically what scientists had already demonstrated theoretically could not be done. And so today he is generally regarded by every one as one of the world's really great men.

And all this has been forced upon the recognition of the world by patient and courageous persistence in a course which he outlined for himself, and pursued without regard for criticism; for it must be remembered that it is not many years ago when he was held in derision by his relatives, in pity by his friends, in scorn by his enemies. He was denounced by scientific men as a charlatan, a producer of spectacular effects, a seeker for the uncanny and abnormal, an enemy to all true scientific progress, a misleading prophet of a new order of things that could never come to pass. Once a minister in his home town invited him to attend church, that

he might listen to a sermon on the work he was carrying on. He accepted the invitation and was forced to listen to an address violently denouncing him as an enemy of God and man, one who was interrupting the well-ordered course of plant life, destroying forces and functions long established and sacred, reducing the vegetable life of the world to a condition at once unnatural and abnormal. Going a little farther back in his history, to the period in which he first attempted to carry out the work of his life, we find him more than once perilously near starvation in a land of plenty, but rising by sheer force of noble ideals above all temporal obstacles. And before he died, the world had formed a well-beaten path to that obscure little village in California where he chose to do his work, because he had become recognized as the master of his particular field. And today the whole world mourns his death because as one of his fellow scientists said, "Luther Burbank is a modest, quiet, devoted worker in science, with a keen eye, a deft hand, a broad intelligence and a sensitive soul."

I.

Mr. Burbank was born March 7, 1849, on a farm a few miles north of the little village of Lancaster, Mass. He was the thirteenth of fifteen children. His father was a man of considerable intellect, and most of the prominent men of the New England of that day were frequent guests at the Burbank home. He attributed his love for books and things intellectual to his father and his ardent love for nature, especially as it is manifested in the plant world, to his mother. It should not be forgotten, however, that he had a cousin who was a well-known geologist and a close friend of Agissiz. With his cousin, he spent much of his time and had his love for nature and science intensified, although it took the form of dealing with the forms of life rather than classifying the forms of death. His boyhood was spent like that of most children of his time, although he seems to have had unusual inclination toward a study of the outward forms of nature, and also a tendency toward mechanical things. He attended the district school, and when he had finished this, he went to the Lancaster Academy. He attended this for several years during the winter and spent the remainder of the year in working. When the time came for him to go

steadily to work, his mechanical bent naturally turned him toward a factory. Here he received fifty cents a day for six days in the week, and found it rather unprofitable since he had to pay fifty cents a day for board and room seven days in the week. He finally persuaded the manager to let him do piece work and thus tripled his income.

All the while in the factory, he was longing for a closer contact with nature, and he finally left it; and after studying medicine for one year, when he was forced to go to work as the result of the death of his father, he started market-gardening and seed raising in a small way. Perhaps it should be said at this time that he found three great sources of inspiration in three men—Thoreau, Emerson, and Darwin. His natural love of nature made him fond of Thoreau; the controversy following the publication of Darwin's books at this time created an interest in this great scientist; and in Emerson he found a sympathetic spirit, and has read him all his life more than any other author. He was now twenty-one years old and tells us that he probably would have been an ordinary gardener and nurseryman the remainder of his life had it not been for the stimulation that came from reading Darwin's latest book, "Animals and Plants Under Domestication." This aroused his imagination, gave him an insight into the world of plant life and an insistent desire to find the answer to the problems the book only suggested. And so he began some experiments with corn and beans to see if he might improve the stock, and he examined every plant in his garden with new interest, always looking for variations which he might develop. It was about this time, in1872, that he developed the Burbank potato—a remarkable improvement upon every potato that had ever been seen. He sold this potato to another seedsman, Mr. Gregory, for $150, and since then there have been seven hundred million bushels of these potatoes raised.

He soon realized that if he would succeed in these experiments, he needed a more advantageous climate, and his thoughts turned to California. So he closed out his business and with a little capital and ten Burbank potatoes, which Mr. Gregory had allowed him to keep, he landed in Santa Rosa. After a period of unusual hardships, during which he engaged in all kinds of menial labor, slept in chicken coops and damp cellars, and contracted a severe fever, he

found more congenial work in a nursery and saved enough money to rent a few acres of ground and start business for himself. The total sales of his first year amounted to $15.20. The next year the return was $84. In 1881 it was over a thousand dollars, and within ten years the quality of the trees and the reliability of the stock of the Burbank Nursery had become so widely known that his sales amounted to more than $16,000 a year. By 1884 he was thoroughly established with a nursery business that gave him a sure income of $10,000 a year or more, and the ordinary man would have continued along this line of established work which insured a life of comparative ease and financial prosperity; but nothing was further from his thoughts than the permanent following of the routine business of nurseryman. He had never given up the hope of devoting the best years of his life to plant experimentation and the development of new races of useful fruits and vegetables, and of beautiful flowers. Now the time seemed to have arrived when the long deferred project could be put into execution; and you can imagine the thought of his friends about a man who would give up a business such as he had established to conduct "silly" experiments in plant-breeding.

And so it was in 1884 that he bought the eighteen acre farm at Sebastopol, seven miles from Santa Rosa, in a region that was better adapted to his proposed experiments. This place was devoted solely to experimental purposes, and its purchase may be said to mark the commencement of his life's work, although he kept the nursery business for several years more until he could put the new work on a paying basis. It was in this year also that he received his first consignment of Japanese fruits for experimental purposes. The following year, he imported twelve varieties of New Zealand apples; and from this time forward he constantly received seeds, bulbs, and rare and interesting plants from all parts of the world for the purpose of experimenting in the improvement of different varieties. His first efforts were directed toward the improvement of fruits and flowers, and from here they extended into every department of vegetable life. He made more than 100,000 experiments, some of them requiring twenty-five or thirty years before they were completed. And these experiments involved the planting, pollenation, observation, and propagation or destruction of

more than 1,000,000,000 individual vegetable growths. And out of this vast number 385 were selected and recommended by him as of value to humanity. Several varieties of a spineless blackberry, now grown around the world, were bred from a wild variety that was considered useless. A certain variety of rhubarb, under his care, increased its stalks from the size of a lead pencil to that of a man's wrist, and was made perpetual instead of bearing for a few weeks only. Canners appealed to him for a perfect pea, one which would mature all of its crop, retain uniformity of size and all ripen at the same time. After three years of work, he met the demand. In fact the faith of the public in his ability to do that kind of thing is humorously reflected in the story of its belief that he would eventually give us a plant producing strawberries and cream by crossing a strawberry plant with a milkweed.

And thus flowers, fruits, grains, grasses, vegetables, even orchard and forest trees were improved and given to the world in new usefulness through months and years of patient and frequently discouraging experiments. Only this last year he gave a New Year's gift to the world by announcing a group of new flowers and plants; and he had hoped to continue his work for a number of years. The April number of the Popular Science Monthly carries an article entitled, "What Burbank plans to do in the next five years." In this interview, he expressed the hope of still doing the most important things of his life. He is quoted as saying, "Everything is yet to be done. In the next five years, I hope to produce plants with grains and fruits larger than any we have at present, with more varied flavors and colors, with better storage and shipping qualities, with more nutriment and less waste, and with every poisonous and injurious element eliminated."

A few months ago Mr. Burbank created considerable comment throughout the country by declaring that "as a scientist, I cannot help but feel that all religions are on a tottering foundation." He also repeated former assertions that he was "an infidel in the true sense of the word." These remarks aroused a great deal of opposition and discussion over the country, clergymen branding his words as "unscientific" and "nonsense," and even the newspapers considering it unfortunate that a man of such prominence should make

remarks that would undermine the faith of the great majority of people. The result of this was that he was invited to occupy the pulpit of the First Congregational Church in San Francisco—a church that makes a practice of spectacular and sensational features. And here he delivered a statement of faith, which merely increased the fury, which is said to have contributed to his death. This statement of faith was given wide publicity, and from that moment to the time of his death he was the recipient of bushels and bushels of mail every day and the subject of every kind of annoying experience. In any case his health suffered a setback a few weeks later when he had a slight heart attack, and without sufficient reserve energy to make a permanent recovery, he passed away peacefully on April 11th, in the thought and the hope that the only immortality awaiting him would be the lasting influence of his life's work upon future generations.

And thus closed a career that was unique in all the history of the world, not that he had done anything different from many others, but that he had done it on so much larger a scale and with such greater results, as to make him practically stand alone in his field of endeavor. Because on that little farm in California, he so applied—to quote the words of a great scientist—"our knowledge of heredity, selection and crossing to the development of plants that he stands unique in the world." And the world's greatest botanist declared, "Luther Burbank is the greatest breeder of plants the world has ever known. The magnitude and the success of his work exceeds anything that has ever been done before." And when we add to this the extreme modesty, the honesty, the humility, the loving kindness of this man, we realize that one of the giants has passed from the earth; and when we review his career, we know that he fulfilled the hope of his mother which she expressed to him as a boy when she told him that it did not make much difference about his religious opinions, but she hoped that he would leave the world a little better than he found it.

II

Now it might be of interest to inquire very briefly into the methods used by Mr. Burbank for the accomplishment of these wonderful results. And here I would have you understand that it was merely an application of intelligence

to the processes of nature, the introduction of intelligent selection into the process of evolution instead of natural selection. Evolution teaches that all change results from variation in offspring, the fittest of which are naturally chosen to survive, and all that Mr. Burbank did was speed up the process by human interference. He caused a great deal more variation by means of cross-breeding and then selected the ones which varied in the direction he desired; and thus brought about results which nature itself would probably never have produced; and then fostered them by providing the kind of environment which they needed for development along a particular line. To use Mr. Burbank's own words, "Plant breeding is the intelligent application of the forces of the human mind in guiding the inherent life forces into useful directions by crossing to make variations, and then selecting the desired character, and sometimes by radically changing environments, to produce desired results." To put it another way—"every living thing is the result of two forces—the inherent constitutional life force with all its acquired habits, the sum of which is heredity; and the numerous complicated external forces, or environment. To guide the interaction of these two forces is the sole object of the breeder of plants." So it results simply into cross-breeding, intelligent selection, and advantageous environment. Sometimes all three of these, sometimes only one or two.

Let me give you an example or two. In front of Mr. Burbank's home is to be seen a row of trees, fifty feet tall, which in less than a score of years have sprung up; and you might be surprised to know that they are walnut trees. Knowing the value of the walnut tree in the lumber market and the tremendous slowness of its growth, he set about to produce a fast growing walnut tree. Taking the pollen from the flower of an English walnut, he dusted it upon the stigmas of a California walnut. Then he waited until the impregnated flowers had developed into nuts and these he planted. Very soon trees grew from these nuts which were unlike either parent. They were a new species. They are said to be the fastest growing trees in the temperate zone; but unlike other fast growing trees, their wood is as hard and as firm and as beautifully colored as that of any walnut tree. In this case, it was simply an instance of

cross-breeding. Or, it may be a simple case of selection. For instance, you are all familiar with the golden poppies that cover the fields and line the roadways of California. On one occasion, Mr. Burbank found one of these wild poppies which showed a delicate crimson line. That touch of crimson revealed to him a submerged life tendency in the flower, which he knew needed only a little artificial aid to become strong and prevail. He took that flower and guarded it. He planted its seed apart where it could not be choked out by the merciless competition that had hitherto kept it down. From the seed grew poppies with more crimson in their flowers. He selected and planted again. Every generation blushed redder, until in a little while he had produced a magnificent new blossom, a true crimson poppy, now recognized as one of the most beautiful flowers. Or it may be a case of cross-breeding and selection covering a period of dozens of generations of the plant, and involving the destruction of thousands of plants. For Mr. Burbank had learned that in order to produce one superior plant, thousands of inferior plants must be produced. Thus he would plant 100,000 rosebushes and destroy 99,999 in order to produce the hundred-thousandth in which he was interested.

But you say all this is very simple, the common knowledge of every one who deals with plants, especially those who are interested in plant breeding. So how do you account for the unprecedented success of Mr. Burbank? I think the elements of his success are to be found largely in his personality and character. For instance, one of these elements was the unusual singleness of purpose with which he lived and worked. He permitted nothing to distract his effort from the one thing that he had set his life on doing. His interest in producing new and improved vegetables and flowers never wavered. In his early years, many of his friends, knowing his mechanical bent, urged him to strive to become a great mechanical inventor. In his later years, his fellow scientists urged him to give his time to deducing and recording the scientific conclusions to which his experiments naturally led. But nothing could draw him away from the singleness of purpose which engaged his whole career.

Another thing that made for success in the Burbank gardens was the tremendous scale on which he conducted his

experiments, and the daring which he practiced in his work. It was these two things which amazed the great Dutch botanist, Hugo De Vries, when he first visited Mr. Burbank. He tells us that he was simply amazed at the extensive scale of his operations as well as at the manner in which he was carrying out experiments which were supposed by scientists to be absolutely impossible. And these things had much to do with his success. Whereas the ordinary plant-breeder would experiment with one or two or half a dozen specimens, Burbank would deal with a thousand or perhaps a hundred thousand specimens, then make his selection and cast the remainder to the flames. The magnitude of his operations is indicated by the fact that in one year he sent to the rubbish heap 400,000 seedlings of hybrid plums and the bonfire they made was but one of fourteen of similar size. And in addition, whereas the ordinary plant-breeder would read all the scientific writings in his field and be guided thereby, Mr. Burbank either did not read them or he kept no account of them, for he was constantly performing experiments, and many of them successfully, which the scientists said could not be done.

A third element that entered into his success was his unusual insight into the latent tendencies and forces of plant life, and it is this probably that marks him as a genius. Any one can cross plants and get variations, but it is the subsequent selection that forms the test. And Mr. Burbank, after producing myriad variant forms, in which the individuals were as different as the faces in a crowd, with amazing quickness and sureness of judgment could pick out a few—sometimes a single one from among thousands—and find in it the properties which he desired to breed. When he made his famous white blackberry, he selected just one plant out of the 65,000 which sprang from the crossings. Very few horticulturists, with a lifetime of experience, could imitate or even understand this swift intuition. It was probably due to his great love of plants and his devotion to the work which he had in hand.

I have not time to discuss today the commercial value of the results of his work. I think every one knows that it is impossible to go to a grocery store without coming into contact with food products which are largely the result of Mr. Burbank's genius. Neither have I time to treat the scientific

value of his work. Here there is considerable difference of opinion. Some people think that he has made great scientific contributions to the world while others feel that the effects of his work here are very slight. The fact is that Mr. Burbank was not a scientist in the sense that he was interested in deducing and formulating scientific theory from his experiments; he was interested rather in producing better fruits and vegetables and more beautiful flowers by any means that could possibly be used. One secret of his success was his resolute adherence to the horticulturist point of view as distinct from the scientific; that is, he devoted his effort to new and improved forms of plant life, not to the discovery and elucidation of new laws. The principal contribution of scientific value that he has made to the world, therefore, was not a deliberate or even conscious contribution; but he has given additional verification by means of his experiments to the theories of biological science and especially as it is related to evolution.

And perhaps the greatest value of his work is what he himself considered most important. He once said, "Striking as are these practical results of my experiments, they are of secondary importance to the establishment and demonstration of the principle responsible for them—that by scientific selection new and valuable species of plants may be created in a brief term of years." And he believed that the force and methods utilized in the production of newer and better plants is life itself and that he was making a contribution to the study of this subject which would lead to a keener insight into the forces of life—plant and human —and that the eventual control of these forces might become a definite and practical thing, upon the mastery of which depends all success in human, as well as plant, improvement; and his constant desire was that his method might be carried over into the intelligent control of human life to the end that our present haphazard growth of human weeds might be replaced by strong and sturdy men and women.

III

I turn now to the character of the man and to his religion. In regard to the former, I shall have but a word to say, for his life was like an open book which he who runs may read. I do not like to be personal, but there is something

that needs to be said here. It was intimated by Dr. Riley two weeks ago in his sermon that Mr. Burbank was an immoral man. At least the papers reported him as saying, after dealing with Mr. Burbank's agnosticism, " I don't recall a single case where a prominent agnostic stands out for the fundamentals of morality." These words are carefully quoted. Now, Dr. Riley has been making those general statements about agnostics and infidels for a good many years, yet he never cites a single specific instance of immorality in the life of any individual agnostic; and I think it about time that he stop maligning these men, most of them, men like Huxley and Ingersoll and Burbank, who have held the principles of morality to be the most sacred thing in the world and who have walked through life without a single stain. Either Dr. Riley does not know what morality is, or else he is willing to go to any length, even to that of besmirching the characters of the world's noblest men, that he might win the adherence of ignorant and silly people to his cruel and despicable theology. I defy Dr. Riley to mention a single immoral deed performed by Luther Burbank. Here was a good man, if ever there was one. Here was a man who was modest, simple, honest, kind, loving, who never interfered with other people's rights, who gave his whole life to the love and service of humankind, and to the discovery of laws for the improvement of human life. A great scientist says of him, "In straightforward simplicity and beauty of character, he excels all the distinguished men I have ever met."

And now in regard to his religion. Dr. Riley says he was an agnostic, which means that he professed not to know anything about God and Immortality; "but now he knows." That last phrase carries with it a portentous meaning for any one who has imagination and has been trained in Christian theology. It insinuates that Mr. Burbank is now paying the penalty of eternal torment for his infidelity. Well, all I have to say in this connection is that if there is a God in the universe who condemns men like Burbank to eternal torment while he blesses some of the cruel intolerant Christians whom I could mention, to eternal bliss, these people show a disregard for values when they ask us to worship him. Another noted fundamentalist intimated that his death, coming so soon after his repudiation of the traditional

dogmas of religion, was a stroke of vengeance—that God smote this infidel for his unbelief. Well, we were not so unkind when Mr. Bryan died within a month of his great defence of Christianity in Dayton, Tenn. In any case, these two striking instances ought to show that there is no more connection between sudden death and the repudiation of Christianity than there is between sudden death and the defence of Christianity. It were much better if these fundamentalists would turn away from Burbank's occasional and comparatively unimportant religious utterances, to the achievements of his life-long and very important work. For here they would find what they so rashly deny—real evidence of the process of evolution. Here was the changing of one form into another, and ultimately of one species into another, operated before our very eyes; and how any one could be acquainted with his achievements and continue to deny the truth of evolution, I do not understand. Mr. Burbank himself, however, disposed of these people in these words, "Mr. Bryan is an honored personal friend of mine, yet this need not prevent the observation that the skull with which nature endowed him visibly approaches the Neanderthal type. Feelings and the use of gesticulations and words are more according to the nature of this type than investigation and reflection." And again he said: "Those who would legislate against the teachings of evolution should also legislate against gravity, electricity and the unreasonable velocity of light and everything else which does not appear in the Bible."

There is no need for me to say much about his religion, because his religion was the same as that which is preached from this platform every Sunday. He was a great Humanist, and his religion might be summed up in that sentence which you always find on the front page of our programs—"We cannot fathom the infinite—it is enough for us to love and serve humanity." That simply means agnosticism toward those things which are beyond the reach of human knowledge and the direction of our love and service, therefore, toward our fellow mortals. And so Mr. Burbank was agnostic in regard to God and Immortality. He believed in a great vital force which permeated all things, and this he called the "universal life." He was not a materialist in the commonly accepted sense of that word. He believed

that the universe was not half dead and half alive, but that every atom is all life and motion; and that differing forms of force and life are but variant forms of the universal life. And in regard to immortality, he was content with the influence which his life would deposit on the shores of time. He said, "Our lives as we live them are passed on to others, tinging all future lives forever." "This to me is immortality."

He called himself an "infidel" as a challenge to thought for those who are asleep. He was an infidel, he said, as Jesus was an infidel, in that he repudiated the conventional forms and the traditional beliefs of the popular religion; and he made his recent statement on religion and unfurled his banner of infidelity for a purpose. "If my words," he said, "have awakened thought in narrow bigots and petrified hypocrites, they will have done their appointed work." And in this respect, they have done a tremendous service. Would that others of equal repute and similar belief, like Edison for instance, might speak thus boldly before their labors are over! For it is true that almost every one who has attained a high place in the realm of science, where they have dealt with facts and with facts alone, have come to similar conclusions on things theological and religious. And this the world at large ought to know.

When we turn to the positive side of his religion, we find that it is the simple practise of the human virtues. "Religion," he said, "is as natural to man and as important to every human being as breathing; but it cannot be described by any single fact. It is love, justice, truth, peace and harmony, a serene unity with science and the laws of the universe." And especially was his a religion of love. In his recent address in San Francisco, he used the word eight times. He said, "I love everybody," "I love everything," "I love humanity," "I love children," "I love my dog," "I am a lover of the man, Jesus," "I am a lover of all things that help." And just before he died on his 77th birthday, he addressed a message to the children of the world, telling them that their happiness will be in direct proportion to their loving thoughts, not only toward every person, but toward everything.

Again he said in his recent address, "What does the Bible mean when it distinctly said, 'By their works ye shall know

them?' Works count far more than words with those who think clearly." And if we apply this test, which he suggests, to his own life, we find the reality of his religion in his love, his unselfishness, his kindness, his gentleness, his tolerance, his reasonableness, his joy in living, his simplicity, his devotion to the highest ends of life. Dr. Jordan in speaking of him as a man of science, said, "If his life is outside the temple of science, there are not many of the rest of us who will be found fit to enter." I would change a single word in that sentence and say, "If his life is outside the temple of religion, there are not many of the rest of us who will be found fit to enter." And if you would know how true a Humanist he was, and how thoroughly his religion harmonized with ours, listen to this statement made by him some years ago: "The God within us is the only available God we know, and the clear light of science teaches us that we must be our own saviours if we are to be found worth saving; in other words, we must depend upon ourselves."

And now at the end, I should like in a few words to lay my finger upon what I believe to be the most significant lesson we can learn from the life of Luther Burbank—and that is in regard to the improved result we might obtain from the application of intelligence to every realm of human life. Mr. Burbank was unwilling to let nature muddle through in her own way and produce any sort of plant that might come from an accidental combination of seed and soil; and so he controlled natural processes to better ends. And if Burbank could not afford to let nature muddle through in running a garden, we cannot afford to let human nature muddle through in running the private affairs of our own lives or the public affairs of our nation. Our families, our schools, our governments, all should be operated scientifically. We have followed all sorts of leaders. We have followed the militarists and they have given us wars. We have followed the demagogues and they have given us revolutions. We have followed the politicians and they have given us corrupt government. It is time that we followed the scientist, the man who finds the facts, determines the conclusions that they suggest, and then acts on them, without regard to votes, traditions, propagandas or prejudices. We have drifted long enough. It is time to master the sit-

uation. This was the supreme hope of Mr. Burbank; and this, aside from all he did for the world and mankind, is the great lesson to be learned from his life.

WHAT LUTHER BURBANK BELIEVED

As Revealed in Answers to a Questionnaire

Several years ago a questionnaire was sent to Mr. Burbank by Miss Brunzell. The following are the questions and his answers:

Q. Were you ever, or are you now, a communicant of any church? If so, what denomination?

Burbank. No, although, I attended church regularly until I was forty, also Sunday school—the last twenty years, however, more for the social benefit than otherwise. Was brought up a Baptist and attended Baptist and Methodist churches until I was forty.

Q. Do you believe in the divinity and miraculous conception of Christ?

B. I do not; there is no proof of it, either natural or otherwise.

Q. Is it your opinion that prayer is answered by an intelligent being from without?

B. I do not believe that prayer has been or ever will be answered by any intelligent being from without. There is absolutely no proof whatever of this, though it may be very comforting to some to believe this myth.

Q. Do you think that the sole value of prayer consists in its effect on the person praying?

B. Mostly. Sometimes it might prove of value to others.

Q. Has science taught you that heaven and hell do not exist?

B. The common orthodox heaven and hell do not exist. They could not exist if there were an all-powerful and just ruler. No criminal could be as cruel as the God who would consign human beings to a hell.

Q. What is your opinion of the Bible? Is it the word of God or of man?

B. Without the shadow of a doubt the work of man, being a history of the lives of ancient tribes reaching up towards civilization, and constructed mostly unconsciously by men, both good and bad.

Q. Do you assume that the soul of man ceases to functionate at death?

B. In other spheres, I do. Its influence will live in humanity—will live for good or bad for all time. We actually live in the lives of others.

Q. Do you agree with Buchner that "the brain is the seat of the soul"?

B. A very difficult question to answer in a few words. The brain, if we include the whole nervous system, is the soul. Millions of souls functionate, through heredity, through our own personal ones.

Q. Would you say that matter and force govern the universe rather than a supreme being?

B. Matter, which in its last analysis is force, governs what we know of the universe.

Q. Can you harmonize the Christian faith with the laws of nature?

B. In part, though this requires more than a "Yes" or "No." It is a faith grown up in our heredity, and has been an important factor, even though it does not harmonize with laws of nature.

Q. Can you say with Darwin that "Agnostic would be the more correct description of my state of mind?"

B. Yes, with reservations.

Q. Have your labors in the field of science and research caused you to alter your earlier opinions on religion?

B. All my work in the field of science and research has come through a change in my earlier opinions on religion. Growth is the law of life. Orthodoxy is the death of scientific effort.

Q. What facts of nature substantiate your views?

B. The evolution and development of man and his civilization through his own efforts, and only these.

Q. Is life after death proved or disproved by science?

B. It has never been proved or disproved, but it is rapidly, in my opinion, being disproved and so accepted by most intelligent people.

Q. What, in your opinion, has given rise to religious beliefs?

B. Probably two things: First, the desire to extend our present life; and second, the desire of its teachers to be supported by those who labor.

Q. Is religion of any value in the conduct of human affairs?

B. There is no possible doubt that it has been and, like police force, will be in the future to those who are not able to govern themselves, especially in their relations toward others.

Further remarks: The thousands of religions which exist and have existed are stepping-stones to a better adaptation to environment, and are one by one being replaced by the clear light of science and knowledge—in other words, as the fables of childhood are being supplanted by a better understanding of the facts of life.

Faithfully yours,

(Signed) LUTHER BURBANK.

It is the custom to publish Mr. Dietrich's addresses in a series of ten numbers during the church year, one address each month being selected for that purpose. Many of these are out of print, but the titles listed below are still available and may be obtained by application in person or by mail to The Publication Committee, 803 LaSalle Ave., Minneapolis, at the price of 10 cents per copy.

The Business of a Church in These Days.
The Plan to Outlaw War.
The Human Thanksgiving.
Liberal Religion at the Cross-Roads.
The General Break-up of Christianity.
The Failure of Protestantism.
The Meaning of Modernism.
Can Human Nature Be Changed?
Christian Science and New Thought.
Religious Reaction and Fundamentalism.
Humanism—The Next Step in Religion.
The Ethics of Violence.
Orthodox Christianity or Evolution.
The Proofs of Evolution.
What the Bible Really Is.
What and Where is God?
Has Man a Soul?
The Kind of Salvation Man Needs.
The Problem of Clear Thinking.
Must We Believe in Immortality?
The Road to Tolerance.
How the Gods Were Made.
Luther Burbank—His Life, His Work, His Religion.